

# AVIATION

*The Oldest American Aeronautical Magazine*

FEBRUARY 25, 1924

Issued Weekly

PRICE 10 CENTS



Walter E. Lees taking delivery of his Lincoln-Standard semi-cabin plane (Wright E2 engine)

VOLUME  
XVI

## SPECIAL FEATURES

DOUGLAS WORLD CRUISER DESCRIBED  
SHAKE UP OF PERSONNEL AT LAKEHURST  
NAVAL ARCTIC AIR EXPEDITION POSTPONED  
PROGRESS TOWARD 1000 HP. AIRCRAFT ENGINES

NUMBER  
8

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HIGHLAND, N. Y.

225 FOURTH AVENUE, NEW YORK

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# AVIATION

VOL. XVI. NO. 8

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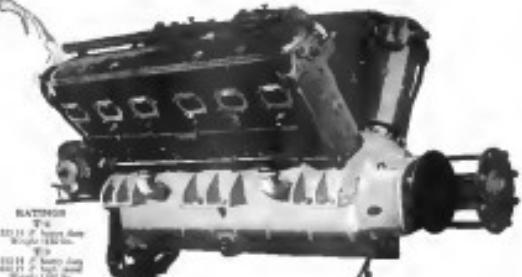
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# AVIATION

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LAWRENCE C. O'BRIEN, EDITOR  
VIRGILIA E. CLARK,  
EDWARD P. WARREN,  
RALPH H. CRANE,  
CONTRIBUTING EDITORS

No. B

## Foreign Racing Entries

LETTERS from Europe indicate new complications regarding entries for the races that are to be held in this country this year. The fact that our aerostats have stood sponsor for these races, whereas in Europe the contractors bear the expense, brings up the question of the possibility of entries competing with a government without added expense. The second question being discussed is the propriety of foreign entries having their expenses paid by the M.A.A. to race over and compete with our own Army and Navy Air Services.

Taking up the first point, the sponsoring of racing by our government, there is excellent precedent for this in the Cavalry, where officers have always been identified with all efforts to improve the breeding of the horses. While it is true that the government has not engaged in horse racing, at least fostered the spirit of contest by encouraging officers to enter the horse shows. In aviation it is somewhat different. The Services have started speed and race speed, and the mass of the last two years have brought the results desired. That what it comes to international air races is a new problem is recognized. Racing between governments would probably establish a precedent that might lead to embarrassing complications. The Shenandoah Cup situation is a case in point. Our Naval Air Service financed the sending of seaplanes and pilots to England, and they were instrumental in lifting the Cup. Now the private foreign contractor is invited to finance a team here to compete with our government services. We believe that governmental entries for the Shenandoah Cup were not responsible and that only the names of contractors would be considered.

The other difficulty comes as a result of the generous offer of St. Louis last year to underwrite the expense of foreign contestants. The English attitude is well expressed by one of our English correspondents. "Our people took the attitude, and I think justifiably, that if they could not afford to race in their own they were not going to race at anybody else's expense. To be quite frank, one of our leading contractors said that it did not seem right to send a machine over to the States at the expense of America and to give the Americans the chance of winning after it was beaten that we could not even put up a show when somebody else paid for it." All of which sounds reasonable.

In France, on the other hand, the contractors are interested in the possible removing of the offer of St. Louis, by Dayton, that year. They appear to be anxious to race for racing sake regardless of the technicalities. If the American contractors are left to defend the many records that we now hold, without government support, they would undoubtedly be interested to expand the large amount required to build and race racing aircraft on European designs.

These two points could receive the attention of the P.A.F.

at this time with the evident effect of clearing up the international racing situation for all time. Our feeling is that governmental air services should not be permitted to compete with private contractors and that records made by government aircraft should be homologated separately.

The matter of furnishing expenses is easily settled and should offer no great difficulties. The fact that the St. Louis Races attracted a crowd that paid approximately \$500,000 would seem to justify the payment of expenses of contestants. But here again, the entry of government in races that have a financial side complicates the decision. It will require a careful and complete investigation of all the viewpoints to reach a clear solution, but it is one that should be given our attention by the international organizations in charge of the sport of flying throughout the world.

## The Shenandoah

THE action of President Coolidge in putting the responsibility for the North Pole Flight of the Shenandoah up to Congress as far as his usual clear thinking Congress is in position as far as perspective is in the Roosevelt Room of the Government. This was shown when the Air Mail appropriation was thrown out of the Appropriation Bill on a point of order. The Congressmen declared that there was no authorization in law for the Air Mail.

Having greater regard for the opinions of learned experts than for those who have only seen in the North Pole venture a scientific expedition of value, as those who have been expressing the general public's view the whole enterprise has attracted us have had to take a different view of the trip. When engineers differ over the airworthiness of a craft for long trips in which the lives of our officers are involved, no considerations seem to us as important as that of obtaining a unanimity of opinion. The lift of the Shenandoah when fitted with helium is not great enough, so believe it will be found, to give an adequate margin against change. As has been pointed out, the use of helium decreases the emergency landing range of the dirigible appreciably and half, a most serious factor when approaching unknown regions with a single boat. The evasion dangers of the French Navy to use the Dirouelle for long distance trips without suitable landing places in case of emergencies, led to the recent disaster. If the warnings of her commanding officer had been heeded, the Dirouelle would probably still be a part of the French Navy instead of lying on the bottom of the sea.

Should Congress decide to go ahead with the proposed Arctic air expedition, we urge that competent technical men be called upon to give expert testimony on the project, unhampered by any considerations of expediency.



as the model WI. This engine is composed of three rows of six cylinders each, with an included angle of forty degrees between each row, and has two rows of valves in the cylinder heads. The fact that an engine of this type had ever been successfully developed, it was stated by Army engineers because it exceeded the particular inherent characteristics which were considered necessary for an engine of this class. This arrangement of cylinders probably gives an compact an engine for the displacement as can be produced, besides having the features of positive inertia balance, and good retention of torque delivered to the propeller.

#### The Air Service WIA Engine

The first one of these engines was completed near the end of 1920. The rated horsepower was 700 at 1700 r.p.m., and 750 at 1900 r.p.m., but the first demonstration trials showed a much greater output. The original engine, except for the occasional substitution of a few new parts, completed less than four thousand hours, besides other tests, and probably ran for a total of about 6000 hours. Never before has the first aircraft engine from any design been known to have made such a record, nor has any engine of its class been known to complete tests of equal duration.

Durability and reliability are the two characteristics of prime importance in large engines, consequently our engineers sought these features, giving weight only secondary consideration. It was finally believed that the best way to develop the power of an engine would be to conduct gradually and thus on an average effect the main features of the design.

The weight of the Model WIA engine is 1775 lb. and, when set to give normally 880 hp, represents 2.21 lb./hp. This figure is lower than any of the six more or less successful large engines developed with the exception of the Hispano-Suiza "Nighthawk" engine, which was also tested from the first. This indicates that the weight of this engine can be reduced to less than 1580 lb. without the slightest sacrifice in life and reliability. The weight per horsepower would then be 1.87 lb., the lowest rate ever obtained for an engine of over 800 hp, exclusive of engine block redesigns taken as experimental engines and lower in fact than for the majority of smaller engines.

#### Selection of Type is Sound

Engines have been made with the Model WI success in two types of airplanes. One is an armored ground attack airplane and the other is a day bomber. Both of these transports are new designs and consequently there has not been so many hours flown as there would have been ordinarily in a day when similar tactics were being followed. The experts of pilots who have been flying these ships, however, are extremely satisfied with regards engine operation.

The selection of the eight-cylinder W type engine as the best suited for output between 700 and 1500 hp has proven sound. The cylinder dimensions can be held within fixed limits, the moving parts are in almost perfect balance, and the power delivery is generally uniform. The overall dimensions are small good reasons for the adoption of this design, and the weight per horsepower has been shown to compare favorably with all other large types constructed to date. There are still problems connected with the design and development of the large engines, but our engineers have apparently been able to solve them. The U. S. Army Air Service and portions of the other leading engines just developed, and the experiences which indicates that successful engines of 1800 to 1900 hp can be built to weigh less than 1.5 lb. per hp.

#### New Officers of S.A.E.

Henry M. Coase, who has been actively identified with aviation for many years, has been elected to the presidency of the Society of Automotive Engineers. Born on June 18, 1914, he received his education in private schools, with a final year at Phillips Exeter Academy, being graduated in 1931. He was graduated from Massachusetts Institute of Technology in 1935 with the degree of Bachelor of Science in Mechanical Engineering and in 1936 with a similar degree as Electrical Engineering.



H. M. Coase, newly elected president of the Society of Automotive Engineers

After graduation he joined the laboratory force of the American Telephone & Telegraph Co. in Boston and stayed there 2 years. In 1936 he was transferred to the engineering department of the Western Electric Co. in New York City where he worked first on the preparation of telephone switchboard installation specifications and later on the development of apparatus and research. In 1938 he left the engineering department to become engineering assistant to H. E. Thayer, manager of the aircraft division of the company, and the following year to the company.

In 1939 Mr. Coase organized the Crane & Whitney Co. in Beacon, N. Y., for the development of positive automatic machinery, and especially marine cars. This company interchanges the Crane Motor Co. Co. and in 1941 was consolidated with the Standard Automobile Co. He was president of the Standard Motor Car Co. and vice-president of the Standard Automobile Co.

In 1945 the Wright-Martin Co. was organized and absorbed the Standard company. Mr. Coase became vice-president in charge of engineering and remained in this position after the reorganization of the company as the Wright Aeronautical Corporation, about Jan. 1, 1945. He resigned from the latter company in March, 1946, and for the remainder of the year was not engaged in any regular business but did some consulting work. In October, 1946, he accepted the position as development of a new passenger car. On July 30, 1947, he was appointed technical assistant to the president of the General Motors Corporation.

H. E. Page of the Wright Aeronautical Company, has been elected second vice-president at the Society of Automotive Engineers, representing aviation engineering. Mr. Page is a graduate of Cornell University, New York, in 1917. He received his early education at the Fitchell-Morgan Academy and was graduated from the Massachusetts Institute of Technology in 1920 with the degree of Bachelor of Science in Mechanical Engineering.

After serving as an apprentice in the shops and drawing office of the Pope Mfg. Co., Bradford, Conn., he became foreman of the drawing office of the company for two years and later transferred to the end of that time to the post of factory manager at the Springfield, Mass., plant of the same organization where he also remained for two years. In 1925 Mr.

Pope became factory manager of the Pope Motor Car Co. at Toledo and after remaining there for two years, accepted a similar position with the Matheson Motor Co., Wilkes-Barre, Pa.

In 1931 he returned to the Pope Mfg. Co. at Bradford and remained there for four years as factory manager, leaving at the expiration of that time to become associated with the Farnsley & Foster Co. at Cleveland in a similar capacity. This position he held for two years.

Mr. Page's active connection with aeronautics began in 1916 when he joined the staff of the Wright-Martin Aircraft Corporation and went to Los Angeles, Calif., as factory manager on the construction of the B3 and the J3 training planes for the Government. In July, 1918, he went to England and France to supervise the installation of the Hispano type engines that the Wright-Martin corporation was building at that time. On completion of this work he also acted as a consulting engineer, with regard to changes in the design of the airplanes in which these engines had to be mounted. When the Wright Aeronautical Corporation was formed in 1920 and its plant at Paterson, N. J., was established, he was appointed factory manager and at the present time is in charge of manufacturing activities on both airplanes and engines.

#### The Collier Trophy Award

For the second successive year the Air Mail Service of the Post Office Department has been awarded the Collier trophy for having made the most notable advance in aviation during the year 1942.

Offices of the award were received on Feb. 9 by George C. Jones, New York, by B. Howell Shaw, executive vice-chairman of the contest committee of the National Aeronautical Association. While the trophy awarded last year still is in possession of the Post Office Department, a formal press release probably will be made to Postmaster General New soon after next week.

Although there have been other notable achievements in the air during the past year the award committee, after a discussion of these merits, voted unanimously for making the award to the Air Mail.

The trophy, a silver cup which the award was based upon, was demonstrated last August when, during a free-fall test, the Air Mail Service spanned the continent twice daily in from 17 to 20 hr., flying mail ships at night over a high lightning zone 3000 km. long.

This demonstration was surely a test to determine the possibility of night flying and the value, as aids in flight, of ground beacon strings across the plane country; yet, the personnel was compelled within a single month, without a single dollar, to construct the two mail ships from coast to coast, better than hoped for by even the most sagacious of its promoters in the postal service.

The Collier trophy was established in 1911 by Robert J. Collier and is bestowed each year for the greatest achievement in American aviation. The first award in 1911 was to Glenn H. Curtiss for hydroplane development. Mr. Curtiss organized the trophy again in 1913 for development and discovery of the flying boat. In 1915, the trophy was given to Orville Wright for development and discovery of the autogiro. A Sperry for the development and demonstration of gyroscopic control. In 1916 W. Starling Burgess was the trophy for development and demonstration of the Burgess-Douglas hydroplane, but the next year it was given to Sperry for development and demonstration of the Sperry Drift Seal. On account of the war the trophy was not awarded from 1917 to 1920. In 1921 it went to G. E. Loening for development and demonstration of his aerial yacht.

In 1922 the award was given to the United States Air Mail Service for a wonderful achievement in completing a 3000-mile round trip over the difficult routes from coast to coast without a single fatal accident.

The citation of the award just made was "to the pilots and other personnel of the United States Air Mail Service for

successfully demonstrating to the world the practicability of night flying in commercial transportation."

The committee making the award is the same as originally appointed in 1911, and is composed of Orville Wright, G. W. Lewis, Frank T. Lohr, Porter H. Adams and B. Bassell Shaw.

#### Regarding a Light Plane Meet

Editor, Aviation:

In the past six months a considerable number of individuals and organizations have been cooperating to further the development of the light plane, and to bring about a light plane meet. Where so many minds are working together there must necessarily arise some divergence in the conception of the light plane and its purpose. For the sake of securing the greatest interest in the meet I direct your attention to the following:

First of all, we must not err away from the fundamental misconception that SPEED is the central factor in light plane development. The Pulitzer rules have given all of us confidence on the subject of speed, and have, for those popularizing aviation, made most people apprehensive about it and reluctant even to fly. The next step must bring flying into the lives of the people, not as a spectator sport, but as a utility. It is only in this way that the public will be interested in the light plane, and the public is very important, and a few speed planes are almost the only real phase of American aviation.

The factors which will bring in the "real" plane are: (1) economy, (2) ease in handling in the air and on the ground, (3) all round performance, (4) climb, speed has a place only as a distant fifth item.

Such a plane will be accomplished by a wise direction of designers toward these ends. Competitions must be staged with this in view, and prizes offered for the sort of performances by which we wish to stimulate the interest in the light plane.

The states published for the light plane events in the Dartmore rules place the entire emphasis upon speed. It is true that in one of the events a climb of 500 ft. in each leg of the race is required, and in another economy plays a slight role in the efficiency formula. But it is recognized that to win the efficiency, one must place in speed. Designers will bend 50% to the race, and if the race will not be a little speed a climb of maybe 60-80 sec. on a practical basis will be a little speed of maybe 0.00 sec. on a practical basis. The Collier trophy will be given to the man who can fly a light plane in 10 min. 30 sec. or less.

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EDWARD ALLEN

#### British Aeronautical Research

The Air Ministry announces a reorganization of the scientific research for the control of aeroplane research.

Under the Air Ministry, the Director of Research, responsible for the direction of scientific research on all aeroplane matters and on the other hand for the application of the results of such research, as well as of practical flying experiments and all accessories, in order to assist the responsibilities of the Royal Air Force and of Civil Aviation. The rapid development of aeronautical science and the increased responsibilities of the Royal Air Force have now made necessary a re-allocation of the responsibilities of the Director of Research, and as from April 1st, the Director of Research will be divided into two parts, the one part will be assigned to a Director of Technical Development. The appointment of Director of Research will be left to the Minister of Civil Aviation. The Director of Scientific Research and the Director of Technical Development will both serve under the Air Member for Supply and Research. Appointments to the new posts will be announced in due course.

# Zachary Lansdowne to Command Shenandoah

General Shake-up in Personnel Follows Rumors of Friction  
At Lakehurst Naval Air Station

The readings and rumors of dissatisfaction and unremedied conditions at Lakehurst in connection with the Shenandoah have at last had the inevitable result of a general shuffling of officers. No one could have visited Lakehurst for the last few months without seeing a condition that was worse. It was even freely discussed by the selected personnel.

Capt. R. P. McCrory, who has been referred to as commander of the Shenandoah, did not fit into the mold of the lighter-than-air experts. He was too conservative, too much of a "book worm" to have been the primary cause of all the difficulties. The lighter-than-air experts did not have high enough rank to command the Lakehurst Naval Air Station and the officers required to operate the airship. Lt. Comdr. Zachary Lansdowne, the new commander of the Shenandoah, as well as seen by the biography prepared from White's *Who's Who in American Aviation*, has had a wide experience in aeronautics specializing in seaplane work.

## New Commander is Well Fitted

Selection of Lt. Commander Lansdowne for this important command is based solely on his peculiar fitness. No other officer in naval aviation has had so much experience in handling rigid airships. When the British airship R.M. 111 crossed the Atlantic and returned several years ago it was selected as observer for the United States. While in England he had extensive training in handling big airships and was honored as a pilot three times.

Lt. Comdr. D. G. Leighton, who succeeds Comdr. R. P. Weymouth as senior engineering officer on the Shenandoah has had a long career in aeronautics and aeronautical engineering as will be seen from the biography reprinted from White's *Who's Who in American Aeronautics*.

Commander Weymouth who superintended the construction of the Shenandoah has had the confidence of everyone and has succeeded to the Naval Aircraft Factory will be regretted by those who have observed the excellent work he has done in connection with the construction and operation of the big ship. Comdr. J. H. Kline, formerly executive officer of the Shenandoah, is to command the Lakehurst Station temporarily but expects to be assigned soon to an Asiatic station. Lt. Comdr. E. C. Moore, formerly commanding Lt. Comdr. M. R. Parry and Lt. Comdr. J. H. Davis have been detached from the Shenandoah to the Lakehurst station. Lt. E. H. Keeler will go to sea. Commander McCrory will command the Corpus, a submarine tender of the Pacific Fleet.

Be serious but the condition became that even this late-



Lt. Comdr. Z. Lansdowne, U.S.N., the new commander of the airship Shenandoah

hour attempt to sweep the naval station and the Shenandoah by Navy patrols may prove unsuccessful.

The coming of the shipboard has been solicited for some time. It is old navy, which is to say that certain has given up personal ambition, between line officers of the Navy and their assigned to specific posts.

When the trial flights of the ship began, before the ship was commissioned, Weymouth was still in command. His

## BIOGRAPHICAL NOTES ON COMMANDERS LANSDOWNE AND LEIGHTON

### Zachary Lansdowne

**LANSDOWNE, ZACHARY**, Lt. Comdr. T. E. Zachary Lansdowne, 1900, born in New York City, son of Captain Elmer May, Jr., and Mrs. Mary (Elmer) Lansdowne, married Edna Macmillan, May 27, 1926.

Educated: U. S. Naval Academy, 1920.

Presently: Lt. Comdr. in service as Executive Officer of the Shenandoah, Lakehurst, N. J. Previous assignments: Executive Officer of the Shenandoah, Lakehurst, N. J.; Executive Officer of the Shenandoah, Lakehurst, N. J.

Was detached: Detached to U. S. N. A. P. Service, San Francisco, Calif., as Assistant to the Director of Naval Personnel, San Francisco, Calif., March 1920 to Sept. 1922. After Office of Naval Personnel, Detached to Bureau of Navigation, San Francisco, Calif., April 1922 to June 1923. Detached to Bureau of Navigation, San Francisco, Calif., June 1923 to Dec. 1924. Detached to Bureau of Navigation, San Francisco, Calif., Dec. 1924 to June 1925. Detached to Bureau of Navigation, San Francisco, Calif., June 1925 to Dec. 1926. Present assignment: Executive Officer of the Shenandoah, Lakehurst, N. J.

Has Deans: Navy Cross (U. S.) for Four Consecutive Years.

Married: New York Yacht Club; Army and Navy Club (1920).

Political: Democratic; Member of Aeronautics Committee, U. S. House of Representatives.

Religious: Navy Protestant; Washington D. C. home; Friends' Office.

### Bruce Gardner Leighton

**LEIGHTON, BRUCE GARDNER**, Lt. Comdr. Bruce Gardner, 1900, born in Los Angeles, Calif., son of Captain George L. and Mrs. Anna (Archibald) Leighton, married Eunice May, April 1926.

Presently: Lieutenant, U. S. Navy, Marine Corps.

February 22, 1928

AVIATION

aboard as he were under his direction. Late officers reported this. Later when the ship was put in commission, Captain McCrory took Weymouth up in place of his officers. They disliked this state of affairs.

This caused the men to oppose the Polar expedition. It was said that the men had lost faith in lighter-than-air craft at first and was opposed to the Polar trip. Lansdowne felt that he could have been transferred at once. But he was kept and when the Polar trip was canceled upon him, he could do nothing but go forward.

There came newspaper stories telling of dissension in the station, of which were believed to be true. R. H. Kline, a friend of Capt. and Capt. Arthur E. Gossen, already expert on the trial flight of the Shenandoah after it broke loose from its mooring mast, of enlisted men failing to volunteer for the Polar trip, "because they didn't want to follow McCrory."

Officials at the Navy Department have made no attempt to

mention the fact that friction among the officers at Lakehurst and those of the Shenandoah's command led finally to a situation where action such as that now taken could no longer be avoided.

After Admiral William A. Moffett demanded the change as being "in the best interests of the Navy."

The change will make it possible for Capt. Arthur Hansen, the German Zeppelin expert, who is now a civilian employee of the United States Government, to make the trip to the polar regions without friction. Captain Hansen is regarded as one of the foremost experts in the world, but due to conflict between the two commands of the Shenandoah officers came to the surface on the flight in the winter last month.

The Shenandoah, which is being rebuilt after her runaway flight on Jan. 16, when she was torn loose from her mast mooring mast by a gale, is damaged in her hangar and will not be ready for service before May. The damage has been estimated at \$100,000.

## Shenandoah's Arctic Expedition Postponed

President Coolidge Halts Trip for Authorization by Congress

President Coolidge has halted the plans of the Navy Department for sending the Shenandoah to the North Pole this summer. Secretary Denby issued on Feb. 15 the following official statement regarding the postponement of the flight.

"Orders to cease preparation for the polar expedition were issued today by the Secretary of the Navy. The President, having been informed that considerable opposition existed to the proposed expenditure of \$100,000 by the Navy Department and in general public opinion at this time, has decided to cancel the trip. It has been considered and Congress given an opportunity, if it desires, to express its views upon the polar expedition."

### Result of Congress Criticism

President Coolidge is not opposed to the proposed expedition and is willing to have the Shenandoah used in the Arctic region should Congress grant its permission. His decision to halt the plan is based on the present general opinion. There has been considerable criticism in Congress of the Navy's plan, and in view of this, it was stated at the White House with the authority of the President, that he did not dare to go to go ahead with the expedition without the expressed consent of Congress.

An advance party of officers and men which left Washington for Nome, Alaska, to carry forward preparatory plans for the expedition, was ordered by the President to return to the city. The aircraft equipment and planes, which were to accompany the advance party to Alaska will be held at the Navy Department. A short time, but unless Congress soon grants authority for the expedition the equipment will be brought back to the naval air base at Washington.

Several officers interested in the enterprise believe that unless Congress indicates within ten days whether it will sanction the polar expedition and the use of the Shenandoah, the plans of the Navy Department for the exploration of the Arctic region during the summer of 1928 would have to be abandoned. A resolution is pending to continue the expedition.

### Hopes for Appropriations

Discussing his action with certain White House officials, President Coolidge said that, in his opinion, it would be unfortunate to go ahead with preparations for the polar flight and then find that Congress was unwilling to authorize the project, or to make the necessary appropriations. The President, in authorized spokesman said, considered it the "part of prudence to wait and see what might develop," with respect to the action of Congress. Mr. Coolidge is understood to be of the opinion that Congress will make the appropriations and continue the project in the interest of science.

At the Navy Department it was stated that the cost of the expedition proper would have been about \$100,000, but that it would cost several hundred thousand dollars to install necessary means for the ship to run on fuel oil, the Prokla and the Hangars.

The Prokla is en route to the Northwest Navy Yard. When it has reached that destination it will be a fleet base for the Shenandoah. The ship will have been equipped with a seaplane catapult, and for that reason, the orders for erecting the mast on that ship have not been canceled. The Hangars, now at Mare Island Navy Yard, was to be remodeled at Nome as the anchorage ship there for the Shenandoah. Orders for outfitting the mast on the Hangars have now been canceled.



Side elevation of the new ship under construction as she will appear when alterations now under way are completed. The vessel will serve as a fleet base for the Shenandoah.

February 25, 1928

One of the criticisms in Congress of the Teapot Dome and \$125,000 naval oil leases has been that Congress action was not enough to stop the Teapot. Further, no action is possible if it is not passed, that is, the House and Senate must act on a joint resolution. Congressional approval and no action thereby should never through the loss of the service, the position of the Administration would become rather embarrassing.

The naval bill, as now expostions for the fiscal year 1928, was voted out by committee, with a report attached which said the House had discussed the polar flight prior to Committee. Dwyer and his colleagues had not yet voted on it in any way in the supply measure, although representations for the flight were to be made from funds already available, and not from those provided in the 1928 supply measure.

#### Opposes Congressional Action

Chairman Shadley of the House Appropriations Committee is understood to be of the opinion that he agreed to act Congressional action in connection with the appropriations French, Republicans, of Idaho, Chairman of the Naval Subcommittee of the Appropriations Committee, was at first inclined to be dubious as to the wisdom of the attempt to reach the Polar by air.

According to Representative Taylor Dwyer, of West Virginia, calling on Secretary Doolittle for information on the polar project, raised the question to take it up with naval officials. After leaving Mr. Doolittle, Rear Admiral Shadley, chief of the Naval Air Service, and Commander Buttrill, Arctic explorer and naval officer called in active service to participate in the flight. Both officers dropped the inquiry. Dwyer's opinion was that the naval officials had made a very good case for their plan.

Representative Hayes, of South Carolina, a member of the Naval committee, said that he knew that an amendment to the Naval bill would be offered in the House, making funds provided for 1928 unavailable for the purpose of the Polar trip.

#### Air Transport in Germany

The year 1927 was an experimental year for German aviation. In the course of the year, 100,000 passengers were planned and carried through, giving Germany contact by air service with all neighboring countries, according to the Western European Division of the Department of Commerce. During the summer of 1927, study flights were made on the following 18 routes:

1. Berlin - Hamburg - Copenhagen  
2. Berlin - Dresden - Prague - Warsaw  
3. Berlin - Stuttgart - Prague - Warsaw

4. Paris - Brussels - Rotterdam - Amsterdam  
5. Paris - Strasbourg - Prague - Warsaw  
6. Paris - Prague - Vienna - Budapest - Belgrade - Balkans - Constantinople (1600 km.)

7. Toulouse - Barcelona - Almeria - Malaga - Rabat - Casablanca (1600 km.)

8. Antwerp - Aachen  
9. Berlin - Lubeck  
3. Manchester - London - Rotterdam - Amsterdam - Bremen - Hamburg - Berlin

4. Paris - Brussels - Rotterdam - Amsterdam  
5. Paris - Strasbourg - Prague - Warsaw

6. Paris - Prague - Vienna - Budapest - Belgrade - Balkans - Constantinople (1600 km.)

7. Toulouse - Barcelona - Almeria - Malaga - Rabat - Casablanca (1600 km.)

8. Antwerp - Aachen  
9. Berlin - Lubeck

10. Hamburg - Copenhagen  
11. Berlin - Dresden - Leipzig - Frankfurt - Mannheim

12. Mannheim - Frankfurt - Cologne  
13. Mannheim - Vienna - Salzburg  
14. Berlin - Dresden - Karlsruhe

15. Karlsruhe - Mannheim - Cologne  
16. Berlin - Dresden - Leipzig - Frankfurt - Mannheim - Cologne

The Junkers Works and Aerei-Lloyd participated in seven of the above lines. These two firms now largely control German commercial aviation.

The former concern accomplished 1,870,000 flight km., carried 17,370 passengers and 65,370 kg. of mail and freight, while the latter secured 275,465 km., carried 2,525 passengers.

and 1,015,600 kg. of mail and freight (including newspapers and from England).

It is planned through international agreements to extend services during 1928. The Junkers Works propose to extend its present routes a through line, London-Berlin-London-Germany-Dubai-Singapore-Tokio-Honolulu-Honolulu-Calgary-Saskatoon-Saskatoon-Minot-Niobrara-Niobrara-Trieste-Venice-Warsaw and over Suez-Negrogoor to Bubras and China. It will plan to extend the eight routes by a connecting route and make arrangements for the time for the major portion of the journey. Where routes include a rideable journey over or along the edge of water, such as the Great-Sainte-Barbe-Athens-Rayong line, the night stop will be by airplane.

#### Lawrence Sperry's Funeral

Funeral services for Lawrence B. Sperry, who was lost in the Pacific Ocean, together with his airplane and crewmen, will be held Feb. 28 in the Protestant Episcopal Cathedral on Gordon Ave., L. I., while the body lies in state at the cathedral until the arrival of the relatives. After the services the airplane will leave the funeral carriage to Bremerton cemetery and descend forever on the grass.

A large and representative gathering from the aeronautical world including relatives and friends will fly down from Washington, among them Dr. Ya G. Gagarin, Dr. E. P. Bowles, Captain of Air Service, who came in his own B-12A biplane, Capt. W. C. Street; Capt. Harold H. Harrow, chief test pilot at MacCoy Field, Pacific Coast Test Center, president of the Association of the Air Service, and Maj. Thomas J. Moore of MacCoy.

Captain Warren G. Gibbs represented Rear Admiral Fred. Clark, Chief of the Naval Bureau of Aeronautics, Captain G. Tamm, the Japanese attaché, J. B. Bafford, the Air Mail Service, Maj. William Henfrey, Miltak Henfrey, S. H. Bradley, the Aeromarine Chamber of Commerce, Alvinobald Rock, the Aeromarine Society of Merchant Engineers.

Other representatives of the service who acted as honoraires pall bearers were: Mrs. H. C. Carter, Charles Loring, George C. Loesing, Arthur Rutherford, Frank H. Russell, Alfred Verville and Charles Wright.

Membres of the family at the services were Mr. and Mrs. Edward M. Sperry, father and mother of the deceased, his widow, Mrs. Winifred Sperry with their children, Winfield and Rosalie, and his brothers, Elmer and Edward.

#### Club Joins N.A.A. in Body

Organized in 1926, the CPC chapter of the N.A.A. started the discussion of being the first unit ever organized in that manner.

This new chapter is composed of 550 members of the Hamel-Poore's Club of the National Cash Register Co. of Dayton. It was formed several days ago aboard the ocean liner Orkney en route to New York from Bermuda where the 1927 annual sales convention of expert N.C.R. salesmen was held.

Membership applications were received by H. W. Karp, assistant to the president of the N.C.R., who was elected. Every member of the sales organization joined the chapter.

As the Orkney docked, Frederick B. Patterson, president of the N.A.A., was among the first to greet the new members.

#### Books Received

AERONAUTICS MAGAZINE INDEX. By Richard E. Tappert, Instructor, U. S. Government School for the Study of Military Aeronautics (1926 pp., \$1.50). Springfield, Massachusetts.

MOVEMENT. A Handbook of Information and Data Relating to the Use of Magnesium and Magnesium Alloys. (1926 pp., \$1.50). American Magnesium Corp., Niagara Falls, N. Y.

## The Douglas World Cruiser Described



One of the Douglas World Cruiser airplanes which the Army Air Service will fly around the world, starting from Los Angeles about March 15, bound for the Far East.

#### SPECIFICATIONS

**GENERAL**  
The biplane is made of three standard aluminum-alloy sections, and has a maximum wing span of 60 ft. All sections are made of sheet metal.

**WINGS**  
The wings consist of standard box beams and bracing on the upper surface. The lower wing is made in panels. The lower wing is made in panels bolted to the upper wing which is held together with two sets of struts.

**TAIL-UNIT**  
The tail unit consists of standard box beams and struts.

**STRUCTURE**  
The fuselage is made of sheet metal having heat treated after barreling and is riveted to the upper wing. The floor is made of sheet metal.

**POWER PLANT**  
The motor is made of standard sheet metal and is mounted on the upper wing.

**FUEL SYSTEM**  
The fuel system is made of steel tubing and is of constant size throughout the plane. It starts with the tank under the plane and ends with the carburetor.

**LUBRICATION SYSTEM**—Water cooled.

The engine uses an oil tank which is made of sheet metal and contains a pump which is used to move the oil around the engine. The engine is mounted on the front of the plane, the bottom plating being two plates of sheet metal.

#### CHARACTERISTICS

**WEIGHTS**  
Weights: empty, 4,200 lb.; loaded, 6,000 lb.; gross, 6,800 lb.

**GROSS WEIGHT**  
maximum capacity, 4,800 lb.; flying weight, 4,200 lb.; landing weight, 3,600 lb.; gross, 6,800 lb.

**WING SPAN**  
maximum, 60 ft.; flying, 58 ft.; landing, 55 ft.; gross, 60 ft.

**WING AREA**  
maximum, 500 sq. ft.; flying, 480 sq. ft.; landing, 460 sq. ft.

**WING CHORD**  
maximum, 12 ft.; flying, 11 ft.; landing, 10 ft.

**WING DIAMETER**  
maximum, 12 ft.; flying, 11 ft.; landing, 10 ft.

**WING TIP DIAMETER**  
maximum, 12 ft.; flying, 11 ft.; landing, 10 ft.

**WING TIP SPAN**  
maximum, 12 ft.; flying, 11 ft.; landing, 10 ft.

**WING TIP DIAMETER**  
maximum, 12 ft.; flying, 11 ft.; landing, 10 ft.

**WING TIP SPAN**  
maximum, 12 ft.; flying, 11 ft.; landing, 10 ft.

**WING TIP DIAMETER**  
maximum, 12 ft.; flying, 11 ft.; landing, 10 ft.

**WING TIP SPAN**  
maximum, 12 ft.; flying, 11 ft.; landing, 10 ft.

**WING TIP DIAMETER**  
maximum, 12 ft.; flying, 11 ft.; landing, 10 ft.

#### PERFORMANCE

**Engines**, 1,900 hp. at 1,200 revs per min.  
1,600 hp. at 1,100 revs per min.  
1,500 hp. at 1,000 revs per min.  
1,400 hp. at 900 revs per min.  
1,300 hp. at 800 revs per min.  
1,200 hp. at 700 revs per min.

#### Carry 600 gal. of Gas

A total of 600 gal. of gasoline is carried in six tanks, a 50 gal. gravity tank is in the center section of the upper wing, one of 350 gal. is behind a fair wind in rear of the engine, one of 150 gal. is under the nose, one of 150 gal. is under the rear cockpit and one of 150 gal. of both lower wings are two tanks behind the engine. Engine driven gear pumps are provided to convey the fuel to the engine and a hand pump for emergency use is located in the cockpit.

Fifty gallons of lubricating oil are carried in two interconnected tanks underneath the engine.

February 25, 1934

# AIRPORTS AND AIRWAYS

## Dupont News

By Marcus C. Holden

Walter Lenz, pilot for the Johnson Airplane and Supply Company, who brought the Flying Club of St. Louis trophy back with him from the St. Louis gathering, arrived home on a new five-passenger Lincoln Standard aerial limousine this week.

"It's a beauty," Walter continued to "Finney" Johnson as landed at the Johnson Flying park. Lenz had taken a return trip from Lincoln, Neb., by way of Chicago where he looked up his old friend, Max H. W. Schlesinger, and got a passenger in Dayton.

In a letter from E. Russell Shaw, executive vice chairman of the board committee of the N.A.A., Ernest John A. Macready was informed that all records made by him and Lenox O'Neil were to be submitted to the National War Service.

These records were upheld by the F.A.A. at a recent hearing in Paris where it was decided to place the achievements of Lancastrian Brother and Sister of San Diego, in a different category. By this action the phenomenal non-stop transoceanic flight on May 3-5, 1933; the duration record of April 16-17, 1933, and the resulting speed records over 3,600, 3,000 and 4,000 m. course, remain chalked behind the names of Lancastrian Macready and Kelly.

"I am glad to hear it," Lancastrian Macready responded in his modest way after reading the letter.

The familiar roar of a Curtiss D-12 motor was heard over the city during the last several days as test flights from McCook field put the new Curtiss pursuit ship through flight trials.

Except for minor modifications, this ship is an exact counterpart of the "break of greatest lightness" in which Lancastrian Macready tried to span the continent between dawn and sunset last summer. Louie W. H. Bowditch made the initial flight.

First tests with the Army's barrage balloons were held at Wilcox Wright Field under supervision of the Bureau of the Ordnance, U.S. Cavalry Department. The balloon was let up 5,000 ft. It then drew down for observation on the contestants ropes. A quarter-inch-tied cable is used on the balloons and the bag is designed to go 15,000 ft. high without losing any of the original hydrogen supply.

The Dayton Chapter of the N.A.A. and the Dayton Chamber of Commerce gave great thanks to sympathetic friends against the action of the House Appropriations Committee in striking out the Post Office Department request for air mail funds.

Before returning to Washington, Congressmen Ray G. Pfeiffer, of Dayton, the recognized leader of aviation in the House of Representatives, and Fredrick D. Patterson, president of the N.A.A. and Walter B. Moore, chamber secretary, that he would do all in his power to bring about an appropriation of funds for the air mail service.

Aviators and professional artists of Dayton have been asked to submit a poster and cover designs for progress in connection with the 1934 Pulitzer race here Oct. 2, 3 and 4.

A cash prize of \$1,000 has been offered for the winning design. Entries are to be mounted on three cards in addition to the background and be presented on a card 18 by 24 in. The deadline is March 1.

Mal. L. W. Mcintosh, superintendent of McCook field and officer in charge of the Engineering Division; Maj. E. L. Hoffmire, head of the equipment section, and E. T. Jones, of the power plant section, attended recent meetings in Washington of the National Advisory Committee for Aeronautics.

Lt. George E. Ballard, chief inspector of the aeroplante section, Wilcox Wright Field, is on an extensive tour of air service depots in the East and Middle West. Capt. Harry Parcells, operations officer at this station, flew to DeMolay field, Louisville, Ky., with supplies recently.

Aeronautical clubs in Dayton continue to have with work being done in preparation for the annual Cleveland flight in April. The power plant section of the Engineering Division has organized a 200-kilometer flight, "a great success," for members, instruction and shipment of all over the globe. Lt. James J. Jones, navigation expert, spent several days at Langley field, Va., instructing the flight personnel, after which Lt. Donald L. Brewster, of the electrical section, explained the work of ignition systems.

Maj. A. W. Hobson, commanding officer of the Intermediate Air Depot, Wilcox Wright Field, has been appointed supply officer and advance man of the United States for the crusade. He arrived at post office there Oct. 16. Lt. Allen, chief of the insulation section, was in Walter Reed Hospital, Washington, suffering from a serious ailment.

## Monmouth News

By R. E. Edger

The entire board of directors of the Mid-West Airlines Corporation was re-elected at a recent stockholders meeting held at the Chamber of Commerce. A report of the flying activities for the year was presented, which showed the results for the flying season to be \$4,200,000, which more than paid the operating expenses of the field and its various departments. The field is the largest in the country.

The directors re-elected were: Chester J. Smith, mayor of Monmouth; C. G. Jenkins, F. E. Petree, E. P. Field, Thomas Blewett, C. W. Blewett and F. D. Diana. The directors set a five day date and selected the following officers: President—E. P. Diana; Vice President—F. E. Petree; Secretary-Treasurer—C. G. Jenkins; Attorney—E. P. Field; General Manager—C. W. Blewett; Pilot Manager—John L. Lovell.

Following the completion of a successful drive for additional working capital, a new hangar was erected at the field field. The new hangar is located 30 ft. north of the first. A garage workshop facilities are planned on the same structure.

The report included the time in the air and the miles flown and the number of passengers carried by Pilot Livingstone during the six trips made in the short time between the start of the corporation. The total flying time was 1,000 hr. 8 min. for a total of 13,015 m. Landings with passengers were 315, while 381 landings were made with students. The total number of passengers carried were 257. Not a forced landing was made during this time.

Preparations are being made to take care of long distance flights, such as flying over great distances of sporting events, a long period of which was lost last year on account of lack of suitable equipment.

A frequent visitor at the Monmouth field last year was E. M. Laird of Wichita, Kan., who made frequent business trips to Chicago in his Laird Swallow. Nearly all photo flights from Chicago to Kansas City and back makes the trip less time to change off at Monrovia for a short time to fly and then on to Chicago. Monrovia being about 300 mi. from Chicago and 250 from Kansas City.

Lou Kavin of Chicago, who disappeared early in December from that city after having obtained \$5,000,000 through a cleverly conducted swindle, is believed to have been the man who attempted to hire Pilot Livingstone to fly to St. Louis. Pilot Livingstone refused to make the trip as the party telephoned him from Chicago would not give his name and

the trip sounded suspicious to the local pilot. Kavin later secured a plane for the trip to Chicago.

During the engine cold spell which prevailed in Illinois during January, Pilot Livingstone of the Mid-West Airways made a trip to Rockford, Ill., where he staged an altitude flight test for a gas and oil company of that city. Livingstone flew an open JN4 on the flight, attaining an altitude of 11,200 ft., where the temperature was 22 deg below zero. The flight was made as a test of the cold weather flying qualities of the oil company's products.

The first man to recover his hearing by the use of the airplane, A. S. Haase of Chicago, was in Monmouth recently and had lost his hearing during the 1928-1930 War. After returning to Chicago he began taking trips with Dr. George A. Zimmerman, Farnsworth, who recommended him to Mr. Harry Jones, a hearing expert, spent several days at Langley field, Va., instructing the flight personnel, after which Lt. Donald L. Brewster, of the electrical section, explained the work of ignition systems.

Cross country fliers on their way to Kansas City, Omaha or Chicago are invited to make use of the Monmouth field, which is large enough to land most any ship. The field is level and well drained and is open 12 months of the year. It is located just west of 209th st. west of Chicago as the Washington railroad and crosses the main commercial shipping point for long distance trips. Hard roads, telephone, gas, oil and repairs are to be available at the entrance of the field, which was developed by the members of the club and the members of the 1933 year taking aerial photos, to be one of the best cross country fields in the country. The field is also located on a direct line between Minneapolis and St. Paul and St. Louis, and there being that Northern route will find the field useful, as the next field is 35 mi. north of Rock Island.

## Chicago News

By Otto Kline

The sensational disappearance of Jack Hansen of Minneapolis and Jack Cope of Checotahfield Field, who is a director of the Checotahfield Field, was reported in the news media with particularity for the facts. Immediately after leaving Checotahfield Field, the facts last night of the earth and sky flying for a considerable time over some covered country with all landmarks obliterated, they suddenly found themselves over Lake Michigan. What with little sense of direction they had left their terrain compasses, hoping to make a good landing place, they found their boat gas supply would play out. They finally landed near a freshwater stream in Indiana, where they remained over night.

David Schreiber is at present building a light two-seater monoplane to be powered with a 65 hp air cooled motor. Details are not yet available.

The impending passage of the Winslow Bill is creating a great deal of discussion in Chicago aviation circles. The general impression is that through the unification plan voted in the secretary of commerce, legislation may be put in force that will keep the small field and builder. The Chicago Chapter of the N.A.A. has provided all of its members with copies of the bill and a special meeting was held at the Illinois Club, where the Winslow bill was thoroughly discussed. The Aviation Club of Chicago will also hold a special meeting shortly for the same purpose.

## Importance of Safety Code

Legislation providing for an aeronautical safety code, which is held to be essential to the development of commercial aviation, is recommended in a statement issued as Feb. 8 by the Transportation Department of the Chamber of Commerce of the United States.

"Such legislation," the bulletin states, "will do more than

anything else for the encouragement of aeronautics. The United States is the only country of any importance which does not have an aeronautical safety code. Canada has a complete code patterned after the International Convention on Aerial Navigation, and at present United States fliers are permitted in Canada only through international courtesy, and then only after a certificate of inspection has been issued by our Army or Navy."

The advantages to business derived from the expediting of the safety code by an act of Congress are the following: "From the standpoint of the market" it maintains "timely airworthiness with interest payments as one form or another, speed of movement of mail is an extremely important factor, and any reduction in the time in transit of collections and other security items will benefit business by cutting down the amount of capital required to move accounts, or by making such capital available for other purposes." "From the standpoint of the nation" it maintains "airworthiness of aircraft available for other purposes." "From the standpoint of the individual states as consumers, "a code for the enforcement of suitable building legislation by Congress to govern the flight of aircraft and the airports over which they operate, thus encouraging aviation as the development of new services to commerce and as an important means of defense. Once this, the designation of air routes and the assignment of air terminals will naturally follow. Such legislation will not only make for greater safety in flying by eliminating the irresponsible element, but should tend to stimulate commercial aeronautics in all its phases."

## Denver Lays Plans for 1935

According to the N.A.A. Review, aeronautical services in Denver, Colo. are making preparations to secure the International Air Races for 1935. Notice that the Colorado capitalists is a groupwise bidder for the events in group in a joint venture in the Denver Post, which much to part in the expense.

"The idea of celebrating the tenth of the Moffat Tunnel by a great exposition has met with the unanimous endorsement of the people of the entire Rocky Mountain region. Hundreds of letters are being received daily, many of these containing valuable suggestions as to the form the exposition would take. The idea of a great automobile exhibition seems to be the most popular proposal. This meeting took place in the exposition that city would be the flying center of the world's air flying races and racing would center in Denver — all the racing contests would be held there."

While the place of the 1935 races has not yet been decided upon by the N.A.A., it will be remembered that at the St. Louis races the designation of the Aero Club of Memphis boosted the city for the 1935 air races should they be unable to obtain those for 1934.

## Ella Bomber to be Tested

The first of the new Ella bombers which the Indians say will be capable of a non-stop flight from Chicago to New York city carrying enough fuel to fly up the longest latitude in the world, will be built in March.

Two of these bombers, each armed with five machine guns which have no unguarded "blind" spot, have been ordered by General Petrich, head of the Army Air Service, for experimental work.

In their assembly by the Engineering Division, they will be given thorough ground and service trials. This is expected to take several weeks.

The Ella bomber was built by G. Ella and Mrs. T. of Brooklyn, N. Y., and was used by the manufacturers to be able to climb rapidly, fly faster and come down at a slower speed than anything in their class.

The Ella bomber is prepared by two 400 hp Liberty motors and has a total wing area of 1,200 sq. ft. It is designed to carry a load of 3000 lb. in an altitude of 13,000 ft. The rated maximum speed is 100 mi./hr. and 60 mi./hr. with full load.

## N.A.A. Mission to South America

Golding L. Calot of Boston, general manager of the N.A.A., will shortly visit Brazil, Uruguay, Argentina and Chile as accredited representatives of the N.A.A. to confer with the aeronautical authorities and news side officials of these countries upon aeronautical matters.







## Speeding the Wheels of Commerce

IT IS to commerce that the most practical good will accrue to this country through the development of the aviation industry. When commercial air routes criss-cross the continent, increased prosperity will follow; just as prosperity always has followed the advent of faster and safe transportation.

As one of the means of development, aviation meets, such as was staged at St. Louis, have the same value to the aviation industry that automobile races have to the automobile industry. These races offer conclusive proof of the value of various improvements or discoveries; for, if a new kind of propeller, for instance, will stand the strain of pulling a ship at the tremendous speed of four miles a minute and more, it will certainly

stand up under the strains incurred during ordinary commercial flying. Already there are a number of companies operating air routes in various parts of this country and the success which they have met would indicate that business men regard them as useful and safe means for shipping and traveling.

One of the pioneers in this business was the Aero Marine Company, which operates four ships on regular schedules between Cleveland, Ohio, and Detroit, Michigan. This Company is proving that safe, regular passenger and express service is possible and profitable by air, and the Standard Oil Company (Indiana) takes great pride in the fact that its aviation products are helping them to do it.

### Stanolind Aviation Gasoline and Aero Oil

have been used for the last year by the Aero Marine Company in all of its ships on this route. These products were selected on the basis of merit, merit, merit, above even the best of aviation. Not a bit of trouble transpired to the oil or gasoline he hasn't encountered.

Stanolind Aviation Gasoline and Aero Oils, to-

gether with the service which makes them available throughout the middle west, are the contribution of the Stanolind Oil Company (Indiana) to the endeavor to make "America First in the Air." They are the best products for the purpose, which this company, one of the largest refiners of crude oil in the world, can produce.

The official guide of the United States Flying Information Bureau, which is now in sale at all Standard Oil Company (Indiana) service stations, contains a complete air map compiled by the National Aeronautical Association of the U.S.A., together with a list of landing fields at which Standard Aviation Gasoline and Stanolind and Stanolind Aviation Gasoline are sold. Write to the Service, "Flight Facts," a copy of which will be sent to you free, on request.

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